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## LOG OF MEETING

### DIRECTORATE FOR ENGINEERING SCIENCES

**SUBJECT:** Ticking Classification Test of the Mattress Flammability Standard 1999 FEB 17 A 11:34

**DATE OF MEETING:** February 18, 1999

**DATE OF LOG ENTRY:** March 2, 1999

**SOURCE OF LOG ENTRY:** Margaret Neily, ESME *WN*

**LOCATION:** CPSC, Room 612, East West Towers

**CPSC ATTENDEES:** See attached attendees list.


**NON-CPSC ATTENDEES:** See attached attendees list.

**SUMMARY OF MEETING:** A key part of the Standard for the Flammability of Mattresses and Mattress Pads (16 CFR 1632) allows for categorizing mattress tickings by their potential "contribution" to ignition of the full mattress. This helps to minimize the number of full-size mattresses that must be tested when tickings are changed during production. Class A tickings act as barriers to ignition from a cigarette; Class B tickings are neutral; and Class C tickings contribute to ignition. The ticking classification test requires the use of untreated (without a flame retardant) cotton batting. Two cotton batting suppliers claim to be able to produce the required untreated cotton batting.

The International Sleep Products Association (ISPA) representatives reported that their industry members had experienced significant variations among laboratories in ticking classification results. They conducted a round robin test to evaluate the test procedure and attempt to determine the cause of these variations. CPSC's Laboratory participated with 9 other laboratories in the study. All materials for the study were purchased centrally by ISPA, and a single supplier provided one batch of untreated cotton batting. Significant variations were observed in test results. Tests of the cotton batting from each laboratory showed contamination with .7 to 9.2% boric acid. These levels are sufficient to influence the test results by classifying some tickings in higher Classes than warranted.

After discussions with cotton batting suppliers, ISPA came to the conclusion that it is no longer possible for the industry to produce the required untreated batting. Suppliers all use boric acid in powder form in their equipment for producing flame resistant (in this case smolder resistant) cotton batting. Even when the boric acid is not intentionally added for the production of "untreated" batting, there is sufficient boric acid in the equipment to contaminate the "untreated" material. Maintaining separate equipment or cleaning existing equipment for production of small amounts of untreated batting is not economically feasible.

ISPA has Gordon Damant with a contract with the California Bureau of Home Furnishings



developing an alternative test method that would be more reliable and not dependent upon the untreated cotton batting. The new test maintains the classification scheme using tickings tested over No. 10 cotton duck (a standard cotton fabric even more smolder-prone than untreated cotton batting) and 2 in glass fiber insulation board instead of the batting. A heavy metal frame fits around the components, exposing the ticking surface for cigarette tests, providing consistent tension on the ticking and eliminating the need for the plywood box. Since the cotton duck is more smolder-prone than the cotton batting, some adjustment in the thickness of the polyurethane foam (used to distinguish between Class B and C tickings) will be needed to maintain the original classification results.

It is critical to the industry to resolve this problem quickly and find a satisfactory method for classifying mattress tickings. ISPA will consider submitting a petition to the Commission requesting the adoption of this alternative method.

## ATTENDANCE

**International Sleep Products Association  
Ticking Classification Tests under the  
Mattress Flammability Standard  
February 18, 1999**

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